

GEOMETRY IN THE SECONDARY SCHOOL CURRICULUM AND IN PROGRESSION TO UNIVERSITY

Discussion Group 1

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ABSTRACT

There has been considerable debate in recent years showing concerns about the place of geometry in the general school curriculum. The impression that the place of geometry in the curriculum, in programmes of study for school students, and in the courses for training teachers has significantly diminished in status. Furthermore, the impression the lack of a coherent geometrical education in school is a factor that is deleterious to many students' progress in their university education. One key factor in this context is the great concern over students' ability to understand the purpose and nature of 'proof' in mathematics.

In order to begin to understand whether, and to what extent, many of these concerns may be shared among colleagues, we devised and circulated a Questionnaire that was sent out to colleagues between August 2015 and March 2016. Until now, we have received 24 answers from 23 countries all over the world. The Questionnaire has two main areas of investigation where colleagues have been asked to comment upon the following themes.

1 Geometry teaching in school from 1970 to 2015

There have been considerable changes in most countries' school curriculum since 1970, and this has caused (or been caused by) political or institutional changes affecting school systems.

These changes have had an effect on the presentation of geometry in school text-books and also on the training of teachers.

2 Geometry in your country now

What kind of geometry is taught at different stages (or pupils' ages) in the school curriculum: for example, deductive geometry, transformation geometry, analytical geometry, vector-based geometry.

What software systems are used in the teaching and learning of geometry: for example, Cabri, Geometers Sketchpad, Geogebra.

Colleagues were also asked whether they felt that currently, students having little experience of geometry when they enter university, that this lack of geometrical experience is detrimental to their progress at university.

We thank all our colleagues who have already contributed to this enquiry; detailed analysis of the data will become available later.

If you are interested in participating in this debate, please write to Évelyne Barbin and Leo Rogers.